# Fig 3. Annotated sequence of the paralogue cluster

30	160	240	320	400	480	560	640	720	800	880	096	1040	1120	1200	1280
10   20   30   40   50   60   70   80   1 ccatgggagc agcatcgcag tgcgcctcc cggccgccat gccgctagct ggtagtccc ctgccgggtg ccgaccgccg 80	gtcaggcgga	gccgacgagg ;	cgcggatgcc gacgtggagc cgtccgtccc gggtggccac 320	ttggtcaggg cctcggagac ggcgtagtac gcggcggtct 400	ccggaccggg atggcggagc gccgggccag ggccttgagc 480	ენნენნენნე	teggegtega geggeacega cagttgeaeg gtgegeaeee 640	caggtegegt tegataegge ggegggeggt gteggeggeg $720$		cacagttgtc	ccactccttg ccgacgacgg aggccgggcc cgaggacacg	acaccagggt gtgcacattc cggccgccgg gcggtacctg 1040	taacggccga	ggcgaccgcg gcgaacacct ccttcggcgg tgccgccgc	eggegecee eegeagetee acaegtgeet gggtgttege 1280
l 70 ctgccgggtg	gaggggcagt	gccgccgagt gcctccaccc ggtcggtgag gccgacgagg	cgtccgtccc	ggcgtagtac	gccgggccag	tgccccgggc gacctcccgg agttcgtcga cggcggcggc	cagttgcacg	ggcgggcggt	tctccgcgtt ggcgatggcg gtggccacca gttcggtgaa	tegitcateg aegecaeget gagegegeee caeagitgie	aggccgggcc	ეგიეგეეგე <sub>ე</sub>	gcgacataca gggcggttcc gttggggctcg taacggccga	ccttcggcgg	acacgtgcct
60 ggtagtcccc	cctgctgggt	gcctccaccc	gacgtggagc	cctcggagac	atggcggagc	gacctcccgg	gcggcaccga	tcgatacggc	ggcgatggcg	acgccacgct	ccgacgacgg	gtgcacattc	gggcggttcc	gcgaacacct	ccgcagctcc
gccgctagct	tecgaeggtg	gccgccgagt	cgcggatgcc	ttggtcaggg	ccggaccggg	tgccccgggc	tcggcgtcga	caggtcgcgt	tctccgcgtt	tegtteateg	ccactccttg	acaccagggt	gcgacataca	ggcgaccgcg	იმშინმინი
1 40 cggccgccat	stop semsor gteggtgtge	gccgcagttg	cggccgtcgt	cttggcggcg	ggatgtcgag	gccgggtgga	gatcagctcg	ggccgtcgtg	gccgcctgcg	catcggcttg	cgcggaatcc	cccgactcga	ggtccaggcg	cggcctcggc	1201 gcgaccaggg tcgccacgcg ccgcagcgcc gcctgctcct
30 tgcgcctccc	gccggatcta	161 tggtggttcc cgcgccgggc gggctgtgca gccgcagttg	241 cccgagcccc ggcagggggc ggcgccaccg cggccgtcgt	321 atggacgtcg acgacggtgg caccggagtg cttggcggcg	401 cgaccggttc ggggtggcgt tccccggtct ggatgtcgag	481 gccgggcgga gtccgccctc ggcgagtacc gccgggtgga	561 cagcccgtcg gtcacctcgt cgagctgccg gatcagctcg	641 gcagcgccag ggagaccagg cgctgttggg ggccgtcgtg	721 gcgacgatcc gggcccgtga cgcggtgagg gccgcctgcg	801 geoggecage eggteetegg tgteegaegg eateggettg	881 cgtcgacgtt gatcggcatg cacaccgtgg cgcggaatcc	961 gccgcgtagt cgtcgatccg cgccgggcag cccgactcga	1041 gataccggcg ggaaaatcac ggccggtcct ggtccaggcg	1121 ggaccgcgaa gtcggccgag aggagctgtc cggcctcggc	ccgcagcgcc
20 agcatcgcag	gggtgcggcg	cácáccadaac	ggcagggggc	acgacggtgg	ggggtggcgt	gtccgccctc	gtcacctcgt	ggagaccagg	gggcccgtga	cggtcctcgg	gatcggcatg	cgtcgatccg	ggaaaatcac	gtcggccgag	tcgccacgcg
10 ccatgggagc	gggcggtccc	tggtggttcc	cccgagcccc	atggacgtcg	cgaccggttc	gccgggcgga	cagcccgtcg	gcagcgccag	gcgacgatcc	gccggccagc	cgtcgacgtt	gccgcgtagt	gataccggcg	ggaccgcgaa	gcgaccaggg
Н	81	161	241	321	401	481	561	641	721	801	881	961	1041	1121	1201

#### 3b/

3361 CCACCTICIT TCCCGGCICC GITICIGGCI CGGCGICCGI IGCCGCGICC GIAGCCGCGC CCGITICCGG CCAIGTCICC 3440 3761 ctggccgtgg acgaccgtgc tgcggcatct gtacgcgatg tggccggaac gtatgcacgg attccccggt tggctgcggc 3840 3841 gegeactege ggaaetgett eeegaggtgg geeeggagee aeaggggeeg eacteeeeeg aegggggega ggagaaeage 3920 ggttcgacac ccgaactgct gcaccagccg ccgggctaca 2640 tgagcaggcc atcaggacag ggcgccggct ctcgcgcgag 2720 tgctgagctg gggcgggaca ccgtacgagg agctgagcgc 2800 ctccggctgg gcgccgtgga gacatgggcg cactgctgtc 2880 GCCGGAGGTG CAGCGCAATC CGCTGCGGGA GCGGCTGATC 2960 CGGACGCGCT CAGGACGTAC GAGGCGACGC GGCGGGCCCT 3040 GCGCTGCACG CGGCGATCCT GCGTCAGGAC AACGGTCTGG 3120 3121 ACCECGICGI CCCGCCGIC GCGCCGCCGI CGCCGGGGGT CGGCGGGGG GCCGTGACGG TGTCGGTCCC GGCACAGCGG 3200 3201 TCGAGGCCGT TGACGCGGCC GGTGGCGGGG CGGGCGCGGG TCCCGGGGGC GATGACGGTG GCGGCGGCG CGGGGGCGGC 3280 GGCTCCGGCT CCGGCTCCGG CTCCGCTCCT GCGTCGGTTC 3360 3411 GGGCCGGGT CCGCTITCGG GICCGIGGCG CICCACCGGC CGCAGACCCT CCGGGGCGAG CCGGICCACG GGGGCGCGCA 3520 3521 GGGGATGCGC ACCGGGCAGG TGTTCCCCAC GCTGCCGCCG TTCGTCGGGC GCGGCGACGA GCTgcgcggt ctgctggagt 3600 3601 ccgcgacgtc cgcgttccac acctcggggc gggtggcgtt cgtcgtcggc gaggcgggca gcggcaagac ccggctcctc 3680 3681 tccgagttgg agcgctcggt tccggacagt gtgcgcaccg tctgggcgtc ctgttcggag agtgaggacc ggcccgacta 3760 2561 ccggctgcgg aaactcctgg ccgagtgtgt gctcccggac 3281 ccccecerc eccreceer cerrrece ercerrrec 2961 GGGCAGCTCA TGCAGGCGCA GTACCGGCTG GGGTGCCAGG 3041 GGCCGAGGAG CTGGGGACCG ATCCGGGCAA GGAGCTGGCG 2881 tgcggctggg gcgggacgag gaggTGATGG ACCAGCTCAA 2641 ccctcgcgct cggcaccgag cacatcgacg cgaaccgttt 2721 gagcagcacc aggaggcgcg ggccgtgctc tgccaggccc 2801 gtacgacttc gccgtccagg aggccaatcg gctggagcag

3c/3

5200	ACCTATCTCG	GGCTGCACCG TACGGGACAC CGAAGGGCGC ACCTATCTCG 5200	TACGGGACAC	GGCTGCACCG	CTCCGGCCGC	5121 CCGGGGCCGC GAGGACCGCA CCGTTCTGGT CTCCGGCCGC	GAGGACCGCA	ວອວວອອອອວວ	5121
5120	v <i>m6par</i> cggrccrgcc	TCGCGGCGGA AIGHTCCAC CGGTCCTGCC	Ссесесссат	тсесессев	GCGTGGCTGC	5041 GAGCCGCGCC CGGACCCGGG CGCCGAGGCC GCGTGGCTGC	CGGACCCGGG	GAGCCGCGCC	5041
5040	CACCCGTTCC	ອອວວວນອວວວ	cercceesa	TCCCCACGCG	ccgacgcacc	4961 cecegraces caccaacce sascesegra cesacecace	cacccacccc	CGCGGTCCGG	4961
4960	GATACGTACC	GAGGAGCCCC CATTGGACAC GTACGCAGCG GATACGTACC 4960	CATTGGACAC	GAGGAGCCCC	ACGGCCCACC	4881 GGCGGCGGCC GTGGCCGGTC GCCGCCCCC ACGGCCCACC	GTGGCCGGTC	ວວອອວອອວອອ	4881
4880	ACACTGGGCG	ACGCGCAGCC GGGTGCAAGG GGCGGTGCCG ACACTGGGCG 4880	GGGTGCAAGG	ACGCGCAGCC	GGGCAGCCGG	GCGCTCCCCG ACGCCGGGCT TGATCCCCCCG GGGCAGCCGG	ACGCCGGGCT	ececicccce	4801
4800	CGGCGCTTGC	gtecegggee eeggggteet egGCGGCGGG CGGCGTTGC 4800	ccgggggtcct	gtcccgggcc	cacggtctga	gtecegitee teegegeteg gggegetgge caeggte <u>tga</u>	tacgagatag	gtcccgttcc	4721
4720	gtcggcccgt	aggccgtctg ggacgacctg gagaacaccc gtcggcccgt 4720	ggacgacctg	aggccgtctg	ctggtccggg	4641 gaccccgggc ggctgaggtt cgtgcatccg ctggtccggg	ggctgaggtt	gaccccgggc	4641
4640	agaccccgac 4640	tacggcggtc cgcggcggtc tgctggagga	cgcggcggtc	tacggcggtc	agaacgtccg	4561 ccgtgctgcg ccatgaggga atcccgctgg agaacgtccg	ccatgaggga	ccgtgctgcg	4561
4560	gtgatcgaga	gcggtcgtgg agcgcagttg cgaacggcgt gtgatcgaga 4560	agcgcagttg	gcggtcgtgg	cgacatctgc	4481 gagcgtgccg cccgccgtgc gccgggtgct cgacatctgc	cccgccgtgc	gagcgtgccg	4481
4480	aacggctgtc	teceggaega getggeeggg gtegtgetge aaeggetgte	gctggccggg	tcccggacga	gagacggaga	4401 tegeteegge aggggetege egeegeetgg gagaeggaga	aggggctcgc	tegeteegge	4401
4400	gctcctccgc	ctccgccggg aacccgtact tcctcgtcca gctcctccgc 4400	aacccgtact	ctccgccggg	tgcacgagcg	4321 aggeceegga caeceteete gtaegggeee tgeacgageg	caccctcctc	aggccccgga	4321
4320	atgctgggca	gcacgggcca ccggggaact cgccggaggg atgctgggca 4320	ccggggaact	gcacgggcca	cgccctggac	gtegacegge gegegeeggg teetgetgaa egeeetggae	გნნაანანან	gtcgaccggc	4241
4240	tgatcctcca	acgaegecga getgegaegg geegeegeeg tgateeteea 4240	gctgcgacgg	acgacgccga	cggctcgcgc	4161 ctgctgctcg tggtcaccac gcgcaccttc cggctcgcgc	tggtcaccac	ctgctgctcg	4161
4160	caccgtcccc	cetgetgege etectggtgg ageaactgeg cacegteece 4160	ctcctggtgg	cctgctgcgc	cctcgctcgc	tgctggagga catggagcgg gccgacgccc cctcgctcgc	catggagcgg	tgctggagga	4081
4080	gtggtgatca	caggogette tgegeaeggt eegegaaeee gtggtgatea 4080	tgcgcacggt	caggogotto	cgccgtgtgc	4001 ctccagagag gctcgtttca ccctgcacga cgccgtgtgc	gctcgtttca	ctccagagag	4001
4000	cgcccccgcg	cgcacaccct cacgctcgcg cccgctctcg cgccccgcg 4000	cacgctcgcg	cgcacaccct	agcaccccgg	3921 ggcaacgggg acggtgcggg cgacggggac agcacccgg	acggtgcggg	ggcaacgggg	3921

#### 3d/3

U.S. Serial No. 10/552,571 Attorney Docket No. PB60213

### REPLACEMENT SHEET

5201 ACGCCTCGTC GGTGCTCGGA CTGACCCAGA TCGGCCATGG ACGTGAGGAG ATCGCGCAGG CCGCCGCCGA GCAGTGCGG 5280 5281 ACACTCGGTC ACTTCCACAC CTGGGGCACC ATCAGCAACG ACAAGGCCAT CCGACTGGCC GCGCGCCTCA CCGACCTGGC 5360 GGCGAGGGCG TCGAGATCGC CCTGCGCATG GCCCGTTACT 5440 5441 TCCACCACCG CACCGGCAGC CCGGAGCGCA CCTGGATCTT GTCGCGCCGC ACCGCCTACC ACGGCATCGG CTACGGCAGC 5520 5521 GGTACGGTGT CGGGCTCGCC CGCCTACCAG GACGGGTTCG GCCCGGTGCT GCCCCATGTG CACCACCTCA CGCCGCCCGA 5600 5601 CCCGTACCAC GCCGAGCTGT ACGACGGCGA GGACGTCACG GAGTACTGCC TGCGCGAACT CGCCCGCACC ATCGACGAGA 5680 5681 TCGGCCCCGG GCGGATCGCC GCGATGATCG GGGAGCCGGT CATGGCGCG GCGGCGCCG TCGTCCCGCC GCCGGACTAC 5760 5761 TGGCCGCGC TCGCCGCGT GCTGCGCTCC CACGGCATCC TGCTGATCCT GGACGAGGTC GTCACCGCGT TCGGCCGCAC 5840 5841 GGGGACCTGG TICGCGGCCG AGCACTICGG GGTGACCCCC. GAICTGCTGG TGACCGCGAA GGGCAICACC ICCGGGTAIG 5920 5921 TCCCGCACGG GGCGGTGCTC CTGACCGAGG AGGTCGCGGA CGCCGTGAAC GGGGAGACGG GGTTCCCGAT CGGCTTCACC 6000 6001 TATACCGGTC ACCCCACGGC GTGCGCCGTC GCGCTCGCCA ATCTCGACAT CATCGAACGG GAAGGGCTGC TGGAGAACGC 6080 6081 GGTGAAGGTG GGCGACCACC TCGCCGGGCG GCTGGCGGCC CTGCGCGGGC TGCCCGCCGT GGGGGACGTC CGGCAACTGG 6160 6161 GCATGATGCT CGCCGTCGAG CIGGTGTCGG ACAAGACGGC CCGCACCCCG CTGCCGGGCG GCACCCTCGG GGTCGTGGAC 6240 6241 GCGCTGCGCG AGGACGCGGG CGTCATCGTC CGGGCCACGC CGCGCTCCCT GGTCCTCAAT CCGGCGCTCG TGATGGACCG 6320 5361 GCCCCAGGGT CTCCAGCGCG TCTACTTCAC CAGCGGCGGC

3e/3

6400	6480	6560	6640	6720	6800	6880	0969	7040	7120	7200	7280	7360	7440	7520
ರಾರಾಣದಾಗಿ	GCGCCTTCCC	TCCTCCTCC	сессесссвя	CGCGTGCACC	CGGCGCGGTG	GGGCGTGGT	CTGGTGGCCG	стсссететс	TGGGCACCGC	GGTACGGGCC	CGACGACATC	CGGCCGTTCT	CTGGTCAGGG	GCAGGCCGGG
CGGGCGGATC	GGCCGACCCG	GCTCGGGCGC	GGTGGGAGAC	CAGAGGGTTC	cceceeceer	GGGATCGCCC	GGTGCGCCAT	GGTATCCGAT	GCGGCCGTGC	CAAGGGCCCG	CCGTCGTCCT	GGCGACACGG	GGCGCTGGAC	ACGACACCGA
CTGCGGCGGC TGGCACCCGA CGGGCGGATC GGCGCGGCCC 6400	GGGCGCCGGG TCGGCAAGC GGCCGACCCG GCGCCTTCCC 6480	rescecerse ecereceer sercesses recreere 6560	CGCCAAGCGC CCCGTGCCAC GGTGGGAGAC CGCCGCCCGA 6640	CCGAIGCGIG CCTCTICGCC CAGAGGGITC CGCGTGCACC 6720	CGTCATCGCC TCCGACGTTC CCGCGGCGGT CGGCGCGGTG	GCCGGGACGC GGTCGCCGAC GGGATCGCCC GGGGCGTGGT 6880	GGGTACGAGG ACGCCGCGA GGTGCGCCAT CTGGTGGCCG 6960	CACGGGACCC GICGGCGAGC GGTATCCGAI GICCCGIGIC 7040	CCGACTTCGA CGCCGCGCG GCGCCGTGC TGGGCACCGC 7120	GCGACGCTGA TCGGTGTCGC CAAGGGCCCG GGTACGGGCC 7200	CACGGACGCC CAGGTGAGCC CCGTCGTCCT CGACGACATC 7280	rcecccca cecercace eecaacace cececerrer 7360	GAACAGGTCC TGGGCGCGCT GGCGCTGGAC CTGGTCAGGG 7440	Acceeeeccc
CTGCGGCGGC	9990090999	теесссстес	CGCCAAGCGC	CCGATGCGTG	CGTCATCGCC	GCCGGGACGC	GGGTACGAGG	CACGGGACCC	CCGACTTCGA	GCGACGCTGA	CACGGACGCC	TCGGCGCCGA	GAACAGGTCC	GGTGCGGGTC ACCGGGGCCC ACGACACCGA GCAGGCCGGG 7520
GGACTCGGTG	caccccccc	GCCGTTCCCG	GTCGAGCCGC	GAAGICCCGT	CGGACCTCGC	GIGCIGCICA	ອອວອວລວອອອ	TGATCGCCTC	TTACCGGGTG	GTGCGGCGAC	CGTTCTTCTG	GGGCTGGGCT	CGTCGCGTTC	cccreercac
CGGACGGCT GGACTCGGTG	ceceeccec cacceecee	ereccceec eccerrcce	ccasccscr srcaasccsc	AAGCCGAAGG GAAGICCCGT	GGGTCCCACG CGGACCTCGC	CGCGCCGAGT GTGCTGCTCA	Acecceeac eeecccecee	AGGGATGTGC TGATCGCCTC	GCGCGGCCC TTACCGGGTG	GGCGGCGCG GTGCGGCGAC	rcsaccerss cerreres	CGCCTTCCAC GGGCTGGGCT	GGGTGGACCT CGTCGCGTTC	Tecescesce cccrestcac
GACGAGGIGG CGGACGGGCT GGACTCGGTG	GIGACGAGAC CGCGGGCCGC CACCCGCGG	CGCCTTTTCC GTGCCCCGGC GCCGTTCCCG	CGTTCCCGTT CCAGCGCGCT GTCGAGCCGC	GEAGCCCGGC AAGCCGAAGG GAAGICCCGT	CGGGATCAGG GGGTCCCACG CGGACCTCGC	CGCGGTTCGC CGCGCCGAGT GTGCTGCTCA	GGCAACGCCA ACGCCGGGAC GGGCCCGCGG	CTGCGACGAG AGGGATGTGC TGATCGCCTC	TGCGGGCGGT GCGCGGCCC TTACCGGGTG	CCCACGAICC GGCGGGCGCG GIGCGGCGAC	GGACGACCGG TCGACGCTGG CGTTCTTCTG	TCGCGGACCG CGCCTTCCAC GGGCTGGGCT	CTCGCGGGCC GGGTGGACCT CGTCGCGTTC	GGACAGCGGC TGCGGCGGCG CCCTGGTCAC
6321 GGCCACGGCG GACGAGGTGG CGGACGGGCT GGACTCGGTG	SCOP CAMPAL 6401 CCCGGCGGGG GTGACGAGAC CGCGGGCCGC	6481 CGTTTCCCGG CGCCTTTTCC GTGCCCCGGC GCCGTTCCCG	6561 GCTGTGGCGC CGTTCCCGTT CCAGCGCGCT GTCGAGCCGC	6641 CGGGCGCGC GGAGCCCGGC AAGCCCGAAGG GAAGICCCGT	6721 ACGGTCACGC CGGGATCAGG GGGTCCCACG CGGACCTCGC	6801 TICACCCGIT CGCGGTTCGC CGCGCCGAGT GIGCTGCTCA	6881 GGTGCTGTCC GGCAACGCCA ACGCCGGGAC GGGCCCGCGG	6961 GGATCGTCGA CTGCGACGAG AGGGATGTGC TGATCGCCTC	7041 CGGCCCATC TGCGGCGGT GCGCGGCCC TTACCGGGTG	7121 GGGCGCCCGT CCCACGATCC GGCGGGCGCG GTGCGGCGAC	7201 CGCCGGAGCA GGACGACCGG TCGACGCTGG CGTTCTTCTG	7281 TICCGCCGGG TCGCGGACCG CGCCTTCCAC GGGCTGGGCT	7361 CGCCAACGGG CTCGCGGGCC GGGTGGACCT CGTCGCGTTC	7441 ACGTCGTCCG GGACAGCGGC TGCGGCGGCG CCCTGGTCAC

#### 31/3

7601 CGCCGTGGCG GGTGGACACG GGGACGAAGG CCCCGGCCGG TCTCCCGGGC GGATCACGAT CCGGGTCGGC GGCCGGGAGG 7680 7681 WCTTCCCGC CCCCGGAAC CGGACCCGGC CGGACGCCGT CACGCGTAT CCGCACGAG GCGAGGTGAC GGTCAATATC 7760
stop oribpar—** 7841 cecceccee eccer <u>orea</u> ceececroc ceececeace eccarcecea eccececea eccarogea caceeace 7920
7921 GECCCGGTGG TCGATCGGCC ACCGGGCCCG CTCCCGTCGT TCCGTCCGCT GTCCCCGGCC GCC <u>CTA</u> CCCC CACCGCTGCC 8000
8001 CGGCGAAGTC CACGGCGCTC TCGGCGTCCA CCGCGTCCAC CGCGTTCTCG GCGTTCTCGG CGTCGTCCGC CGCCGCCCCC 8080
8081 GGTGGCAGGG GAGAGTCCAC CGGTGCCGAC GCGGGCGACG TGGTGGCGCG GGCGTACTGG TAGAGCAGTT CGGCCCCGAT 8160
8161 CTCCGCCGCC AGCAGGGAGG TGATCCCCGA CGGGTCGTAC GCCGGGGACA CCTCGACCAC GTCGAAGCCG ACGGCCTGA 8240
8241 GCTGCCCGAC CACGTCGAGC AGGGTCAGCA CCTCGCGCGA GGACAGCCCG CCGGGGCCG GTGTGCCGGT GCCCGGGGC 8320
8321 TACGCCGGGT CGACGACGTC GATGTCGACG GAGACGTACA GCGGCAGGCC GCCGACGGTG CGCCGGATCT GCTCGGCGAT 8400
8401 GCCGCGCGGT GAGCGCCGGG TGAAGTCGGC GGCGGTGACG ATGCTGACGC CGTGCCCGCG CGCGTAGTCC AGGGAGTCGG 8480
8481 GCCGCGCGATT GTGGCCGCGG ATGCCGACCT GGACCAGGCG CTCCGGGTCC ACCAGGCCCT CTTCGATGGC CCAGCGGAAG 8560
8561 GGGGTGCCGT GGTGGTAGGT GCCGCCGTAG ACGGTGGGT TGGTGTCGCT GTGCGCGTCC AGGTGCAGGA CGGCGACCCG 8640

#### 36/3 (3

8720	8800	8880	8960	9040	9120	9200	9280	9360	9440	9520	0096	9680	9760
AGCGAGTGGT CCCCGCCCAG CATCAGGAAC GCGTCGTTGC 8720	CGCCAGGTCC ATCGAGAAGG GGCTGAGGTC GATGTCGCCC	GGTCGATGCC GACGCCGTGG ATCAGGCTGG ACTCGTGCCG	턴	AGACGC GGTGGACACC	TACCGACGCC CGGCCACCCC GTGCGGGCTC CCGTTCCCGT	AATCCCGTTC CCGCGCCCGC GGCGCCGTCC GGGCCGCGGC	GTTGCCGCTC TGCGGGCCGG TGCCCGCGCC CACGCCCGGT 9280	reccerrere eccacceere ccerrerece cecrearace 9360	CGGAGCGCCG CACCGTCTCG CCGAAGTCCA CGTCCTCCGG	GCCATGGCGC CCTTGACGGC CGTCACCTCG TCGCGCCGGA 9520	GCCGGACCCC TCGTGGATGC CCAGCTTGGG GCGGGCCACG	CCCACTTGTC GGTGCCCCGC CGGCGTTTGA GCCCGGGTTC	GGGTGGGTGG TCCACTTCCC GGCGATGCCC GCGAGGACGG 9760
CATCAGGAAC	GGCTGAGGTC	ATCAGGCTGG	GCCGACGACC	CGCCGGTTGG GCGTAGCGCG GGGAGACGGC GGTGGACACC	GTGCGGGCTC	GGCGCCGTCC	Tecccececc	ccerrcresc	ccsaagrcca	CGTCACCTCG	CCAGCTTGGG	CGGCGTTTGA	GGCGATGCCC
ccccecccae	ATCGAGAAGG	GACGCCGTGG	CGTACGGGGC	GCGTAGCGCG	CGGCCACCCC	ວອວວວອວອວວ	TGCGGGCCGG	GCCACCGGTG	caccercrcs	CCTTGACGGC	TCGTGGATGC	GGTGCCCCGC	TCCACTTCCC
AGCGAGTGGT	CGCCAGGTCC	GGTCGATGCC	Greccrecer	CGCCGGTTGG	TACCGACGCC	AATCCCGTTC	GTTGCCGCTC	reccerrere	cecaececce	GCCATGGCGC	GCCGGACCCC	CCCACTTGTC	GGGTGGGTGG
GGCCAGGGAG	CGGTGTCCAT	೧೭೩೯೯೯	ссествесте	GCATGAAGGT	cccerrccce	rcceceres	rccrececc	ອອນນອນນອນນ	ACCGCGTCGA	CAGGCGCCGT	CGCTGGTGGT	TGCCGCAACA	GTCCCAGTAC
8641 GCCGIGGCGG GCGTGCACGG CGCGCAGGGC GGCCAGGGAG	8721 GTTCCAGGAG CCGGGTCAGG GCGACCGTCG CGGTGTCCAT	8801 CCGTCGACCA CGTCGATCCG GTCGAAGACC CCTGGGCCCC	8881 GAIGGCGCGC GGCGCGAACC GCGCGCGGG CCGGTAGCIG	8961 GGCCGATCGG GTCGGGCCGG TGGCGCAGCC GCATGAAGGT	9041 creeccerrc ccdececacc ceecccrecr cccerrccc	9121 GCCGACCCCC GTTCCCGAAC GGGCTCCCGT TCCCGCGTGG	9201 IGCCCCTCCC ICCGAGACCG CICCTGCCGI ICCTGCGGCC	9281 GCACCGTCCG CGCCGCCG GGTGCCGTTG CCGCCGCGG	ACCACCCGGC CCTGGAGCCT GAGCCTGCGC ACCGCGTCGA	9441 CGGCACCGTG TCGATGACCA CCGCGTCGTA CAGGCGCCGT	9521 ICCCIICGGC GAGGAGCAGI CCGGICCACG CGCIGGIGGI	9601 GICTCGGCGG GCAGCAGGCC GGAGAGGGCC TGCCGCAACA	9681 GAGGGAGACC AGCGCGTCCA GGACCGCGCG GTCCCAGTAC
GCGTGCACGG	ccesercass	cercearcce	GGCGCGAACC	GTCGGGCCGG	ccdececacc	GTTCCCGAAC	TCCGAGACCG	ວວອວວອວວອວ	CCTGGAGCCT	TCGATGACCA	GAGGAGCAGT	GCAGCAGGCC	AGCGCGTCCA
eccereecee	GTTCCAGGAG	CCGTCGACCA	GATGGCGCGC	GGCCGATCGG	creeccerrc	GCCGACCCCC	TGCCCCTCCC	GCACCGTCCG	ACCACCGGC	cescaccers	rcccrrcesc	GTCTCGGCGG	GAGGGAGACC
8641	8721	8801	8881	8961	9041	9121	9201	9281	9361	9441	9521	9601	9681

#### 3h/3

AG 9920	3A 10000	JG 10080	rc 10160	3C 10240	rg 10320	FT 10400	2A 10480	3C 10560	rc 10640	a 10720	3G 10800	3G 10880	3G 10960	rc 11040
GCCGGTAG	AGTTCCCT	GTCGAACT	ccccesag	AGGCGTTC	CCTGGCGG	ງອວອວອອວວ	AGCCCCGT	GTCGGTGA	GTTCGGCG	AGCAGCCG	GGTGCCGT(	)ອວລອລລອລ	TCGACGGT	CGGCCGAG!
TGAGGATGCG GAGCGGCCCG GTGTCGAGCC GCCGGTAGAG	GTGATCICCG CGCCGAC CGCCCAGGGC AGTTCCCTGA 10000	GCCCAGGTGG ACGCCACCG AGCGGGCCGC GTCGAACTCG 10080	GTGCCAGGGC CGCCGTGTGG GCGGCGACTC CCCCGGAGTC 10160	CCGCGCAGCC GGGTGCGGAC CGCCGTGGCG AGGCGTTCGC 10240	GGAGAGCGGG GGTGTCCAGG TGCGGACCGC CCTGGCGGTG 10320	CGGCGGGGAC CCGGCAGACG CCCGCCGCC CCGGCGCGGT 10400	GCCAGGGICT TCGCCTCGGT GGCGGCGCTC AGCCCCGTCA 10480	GGTGGCCGCG ACGGTCGCGC CGGTGGAGGC GTCGGTGAGC 10560	GGCCCCAGCG CCGCCAGCG GCCAGCA GTTCGGCGTC 10640	TCGGCGCGGT TGTACAGCTC GCCCGCCAGG AGCAGCCGGA 10720	CACGGCCGTT CCGCTCCAGA GCGGGTACGC GGTGCCGTCG 10800	cecrecces rrcsakarsa cceccesse cecceces 10880	GAACTCCTCC TCCACGCTGG 10960	CAGGAACGGG CGGCCGAGTC 11040
GAGCGGCCCG	севсевсемс	ACGGCGACCG	ceccereree	GGGTGCGGAC	GGTGTCCAGG	cceecasacs	тсесстсеет	ACGGTCGCGC	cceccaeece	TGTACAGCTC	CCGCTCCAGA	TTCGGAGTGA	start <i>orrspar</i> <b>4</b> AGGICGGGC CGGG <u>CAI</u> GGI	TAGGCCACCG GTACCTCGAT
TGAGGATGCG	GTGATCTCCG	GCCCAGGTGG	GTGCCAGGGC	CCGCGCAGCC	GGAGAGCGGG	CGGCGGGGAC	GCCAGGGTCT	GGTGGCCGCG	GGCCCCAGCG	TCGGCGCGGT	CACGGCCGTT	Secretage	start <i>orrspar</i> A—AGGTCGGGGC CGGGCAT	TAGGCCACCG
CCGTACCCGG	cereeeerce	TGTGCGCGGT	cererccee	ceccrccce	GCAGCGCCG	AGGCCGGTCC	сеестсетес	ceecereerc	AAGGCCCCGG	TCCGGTCAGC	GGCCCAGGGT	AAGCGGGGTG	TCCGTACACG	CTGGAAGTCG
GATGTCGGCG	ACTCCAGGAC	CGGATCTCGC	CGACACGGAC	CGGTGGGGGC	cerrcecces	GTGCAGCAGG	ວວອອວວອອວອ	GGTACCGAAC	CAGGAGCCGG	CGCCGAGCGC	ACGGGCGGAC	GCGGACGGCG	GCGGCCCTCG GTGCCGATGC GCACCCGGAA TCCGTACACG	TEMBERGE AND
cecceaecee	GGCAGCAGGT	CGAGTGGAGC	CGGTGCCCAT	GACAGGACGA	CACCGCCTCC	CGCCGACTCC	GACAGGCCCA	CAGCCACAGC	ACCGTCCGTT	GCAGAGGAGC	GGCGACCAGG	CATGGGTCCC	GTGCCGATGC	rzpar AGGGCGGCGA
9841 CGGIGCATAC CGCCGAGCGG GAIGTCGGCG CCGTACCCGG	9921 GGCGACGAGC GGCAGCAGGT ACTCCAGGAC CGTGGGGTCG	10001 CGAGTTCGGC CGAGTGGAGC CGGATCTCGC TGTGCGGGT	10081 TCGGACACCT CGGTGCCCAT CGACACGGAC CGTGTCCCGG	10161 GATGCCGCCG GACAGGACGA CGGTGGGGGC CGCCTCCCCG	10241 CGACCAGGTC CACCGCCTCC CGTTCGCCGG GCAGCGCCCG	10321 ATGTCGGAGC CGCCGACTCC GTGCAGCAGG AGGGCGGTCC	10401 GIGGGIGCCG GACAGGCCCA GCGGCCGGCC CGGCICGIGC	10481 CGTCGGCGCG CAGCCACAGC GGTACCGAAC CGGCGTGGTC	10561 AGTGCGGCGA ACCGTCCGTT CAGGAGCCGG AAGGCCCCGG	10641 GCCGAGGGCG GCAGAGGAGC CGCCGAGCGC TCCGGTCAGC	10721 CCTGGCCGTC GGCGACCAGG ACGGGCGGAC GGCCCAGGGT	10801 TGCACGGGGA CATGGGTCCC GCGGACGGCG AAGCGGGGTG	ອວໄວວວອອວອ	
9841	9921	10001	10081	10161	10241	10321	10401	10481	10561	10641	10721	10801	10881	10961

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### U.S. Serial No. 10/552,571 Attorney Docket No. PB60213

# REPLACEMENT SHEET

11120	11200	11280	11360	11440	11520	11600	11680	11760	11840	11920	12000	12080	12160	12240
GGTGGCGCGG ACGCCTCGC AGCCGTTGGC CTCGGCGAGC 11120	GCTCGATCAG			CGTACGCTG GTCGGACTTG GCGAAGAGCA CGCCGTAGTG 11440	TCAIGCAGIC GAICACCIGG IGGACCCGCA 11520	GACGCGGCC CGCAGGCCC TGAGGTCGTG CCGGGTCTTG 11600	ATTCGCCGAC GTTGGTGACG ATGTCGATGT CGGCGCGGAA 11680	GIGGTCTIGG CCCGGCCCCG CGTCCACATG GAGGGGCGCA 11760	GGCGGGCCG AAGAICTCGI CGAGGGCCGG GTGGCCGAGA 11840	GGTGGTCGTG CGCCAGGACG CCCTTGGCGG TGTAGGTGGT 11920	GCGTCGACGG CCCCGGCGCG GATGACGGCG CTACCGACGA 12000	CICGICGAGG CGGCGCGC AGICGGCGIC CAGGGCGIGG 12080	CGTTCAGCIC GGCGCCGAGG AGGTCGACCG GCAGGCIGAT 12160	GCGCTGTCGA CGAGGTTGAC GATGTCCTCG CCGCGTTCGA 12240
AGCCGTTGGC	TTCTGGTACA	CTCGATGTCG	CGGCCATGGC	GCGAAGAGCA	GATCACCTGG	rcaggregre	Argregargr	CGTCCACATG	CGAGGGCCGG	cccrreecee	GATGACGGCG	AGTCGGCGTC	AGGTCGACCG	GATGTCCTCG
ACGGCCTCGC	GGGAGCGCTG GTGTCCGAGG TTCTGGTACA GCTCGATCAG	AGGCCCAGGC GCACGGCCGT CTCGATGTCG GCGCTGTTGG	GCCGGGCCGG GCGATCTGGG CGGCCATGGC GGCGGGCAGT	GTCGGACTTG	TCATGCAGTC	CGCAGGGCGC	GTTGGTGACG	ອນນນນອອນນນ	AAGATCTCGT	CGGCAGGACG	ອວອວອອວວວວ	ວວອວອວອອວ	GGCGCCGAGG	CGAGGTTGAC
GGTGGCGCGG	GGGAGCGCTG	AGGCCCAGGC	ອອວວອອອວວອ	CGTACGGCTG	AGGACGGAGT	GACGCGGGCG	ATTCGGCGAC	Greercrree	ອວວອອອອວອອ	GGTGGTCGTG	GCGTCGACGG	CTCGTCGAGG	CGTTCAGCTC	GCGCTGTCGA
AGGTGCGGTC	CCGGGGGCGT	GACGATCGGC	AGACGGGCTC	GTGAGGAATC	sccerrerce	GGAATTCGGC	GCGGTGACGA	GACCCGGACC	GGAGGAGGTC	TAGTTGAGCG	GGCGCGCAGG	GCTCAGCGGC	Greecerec	GTTGAGGACG
GCGAGCAGCG	GAAGCCGACG	CGACGACCAT	GCGATGAGGA	GCCCGCGGAG	TGACGAAGGT	GGGTCGGCGA	GTCGTCGAGC	CCTCGGGGGC	CCGATCGCCA	GATGGCGCCG	GCTCGGCGAG	TCGCGCACCA	GTGGCGGTGG CCCGGACCAG GGGGGCGTCG GTGGGGGTGC	CGATCCGGCT
GGTGAGGGCG	CGACGCTTCC	TCGTTGTTGA	GCCGTCGCCC	AGCTGGAGCA	CCGATGTCGC	GTACTCGGTG	CCGAGGTCGC	ATCGGGTTGA	GTAGTCGTAG	TGTAGCCGCT	ATGTTCAGCC	GTTCTCGGCC	cccesaccas	CCCACGGGCT
11041 CGCCCCCTT GGTGAGGGCG GCGAGCAGCG AGGTGCGGTC	11121 TGGACGAAGT CGACGCTTCC GAAGCCGACG GCGGGGGCGT	11201 GCCGTTGCGG TCGTTGTTGA CGACGACCAT GACGATCGGC	11281 AGTGGAAGCC GCCGTCGCCC GCGATGAGGA AGACGGGCTC	11361 CCGTAGCCGA AGCTGGAGCA GCCCGCGGAG GTGAGGAATC	11441 GCGGAAGAAG CCGATGTCGC TGACGAAGGT GCCGTTGTCG	11521 TGCCGTCCTC GTACTCGGTG GGGTCGGCGA GGAATTCGGC	11601 GGGCGAGGC CCGAGGTCGC GTCGTCGAGC GCGGTGACGA	11681 CAGCTCCGGG ATCGGGTTGA CCTCGGGGGC GACCCGGACC	11761 GGTCCTCGGC GTAGTCGTAG CCGATCGCCA GGAGGAGGTC	11841 ATGCCGTCCA TGTAGCCGCT GATGGCGCCG TAGTTGAGCG	11921 GACGACGGGG ATGTTCAGCC GCTCGGCGAG GGCGCGCAGG	12001 CGAGGAGGGG GTTCTCGGCC TCGCGCACCA GCTCAGCGGC	GTGGCGGTGG	12161 GAAGCTGGGA CCCACGGGCT CGATCCGGCT GTTGAGGACG
1041	.121	1201	1281	1361	1441	1521	1601	1681	1921	1841	1921	2001	12081	191

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### NEW SHEET

													(SEQ ID NO:16)
g 12320	T 12400	G 12480	G 12560	T 12640	G 12720	G 12800	c 12880	A 12960	G 13040	c 13120	T 13200	T 13280	13313
GTAGCAGTC	CCAGGTTGG	Acccceece	GCCGACGAC	AGATCTCCT	ACCGTGGGT	CGCGTTCAA	CGTCCCCTT	TCCCCATCG	ACCCCGGTG	ອວອວອອອອວ	ອວອວອອວອ	GICGAGIIC	80
cerress	cceeree	CGCCATC	CTCCCG	SCCATGG	SGCGCAC	SGCAAGG	CCGATTC	AATCTTT	crccaag	SCTTCTT	೨೦೦೨೨೦೦	CTACGAG	1 70
G TGA	G ACG	C GTC	G ACG	rizpa. G GTG(	G GGT	A ATG	C CAT	CTG	C GTA	A AGC	G ACC	T. CGG(	09
CACTGGTGG	GGAGGTGGC	GGGCGAGGR	AGAATGGCG	ceceercere ereccare	GTGCGCACC	CTTGGACAG	CGACGGTCT	CAAGCCCAG	ACCGCTATO	GACCTGGC	GACCGCCCT	ເວອອອອວວອ	_
12241 GCTGGACGCT GAACTTGGTC AGCGGGCCCA TCACGGCGGT GCTGTCCAGG CACTGGTGGG TGACGTTGGG GTAGCAGTCG 12320	GGTCCAGGGC GGAGGTGGCG ACGCCGGTGG CCAGGTTGGT 12400	TTGGTGATCC GGGCGAGGAC GTCCGCCATC ACCCCGGCGG	12481 TGAACTCGTG CCGGGTCAGG ACGAAGTCGA GTCCTTCGAC CTCGTCGAAG AGAATGGCGG ACGCCTCCCG GCCGACGACG	GCATGGCTTT	12641 CGCATCGGAC GGGCGCCGGG ATGGCGCCCC GGAAAACGCG GCACCGGGCG GTGCGCACCG GGTGGCGCAC ACCGTGGGTG 12720	GGACGCCCGG CTTGGACAGA ATGGGCAAGG CGCGTTCAAG	CGTCCGGCGC CGACGGTCTC CATCCGATTC CGTCCCCTTC	12881 CGTCCACCGA TCCGAGGAGA ATCCATGGAT GTCCTGGCCG CGTTGGAGCG CAAGCCCAGC CTGAATCTTT TCCCCATCGA	TCGCCGCGCG CCAGTGCCGC GCTGGCCACC GACGCCGTCA ACCGCTATCC GTACTCCGAG ACCCCGGTGG	13041 CCGTCTACGG CGATGTCACG GGGCTGGCCG AGGTGTACGC GTACTGCGAG GACCTGGCCA AGCGCTTCTT CGGGGCGCGC	ACACCGTGCT GACCGCCCTG ACCCCGCCCG GCGGGCGCGT 13200	GIGACGAICI GCCGGGCTI CGGCTACGAG GICGAGTICI 13280	1 50
TCACGGCGGT	ACCGAGCTGC	CTGGGGGCGG	GICCIICGAC	GGTCGACACC GTACTGGTGA AGACGTTCCA	GGAAAACGCG	12721 GIGGCGTIGC CACTGIGCGG AICGCCICIT GGCGGCGGIC	12801 GCATGGCGTC CATCGTCCTC GTGGCGCTTT TCGTGAAATC	GTCCTGGCCG	GCTGGCCACC	AGGTGTACGC	CACACCATGC	13201 CCTGGTCCTC GCGCCGAGG ACGGCGGCCA CTACGCCACG	ACT   40
AGCGGGCCCA	CAGCGCGATG	CGAAGCACGC	ACGAAGTCGA	GTACTGGTGA	ATGGCGCCCC	ATCGCCTCTT	GTGGCGCTTT	ATCCATGGAT	CCAGTGCCGC	GGGCTGGCCG	GTCCGGTCTG	ACGGCGGCCA	CTGGAGATCG   30
GAACTTGGTC	12321 TACGACTCGG ACTGCGCGGC CAGCGCGATG ACCGAGCTGC	12401 CATGCCGGGG CCCAGGGTCG CGAAGCACGC CTGGGGGCGG	CCGGGTCAGG	GGTCGACACC	ອອອນນອນອອອ	CACTGTGCGG	CATCGTCCTC	TCCGAGGAGA	rceccecece	CGATGTCACG	TGCAGTTCCT GTCCGGTCTG CACACCATGC	GCGCCGGAGG	13281 TACCTTCGAC CGCCGGACAC CTGGAGATCG ACT   10   20   30
GCTGGACGCT	TACGACTCGG	CATGCCGGGG	TGAACTCGTG	12561 CCGAATACAT	CGCATCGGAC	GIGGCGTIGC	GCATGGCGTC	CGTCCACCGA	12961 GAACCGGCTG	CCGTCTACGG	13121 CACGCCGGTG	сстестсстс	TACCTTCGAC   10
12241	12321	12401	12481	12561	12641	12721	12801	12881	12961	13041	13121	13201	13281

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